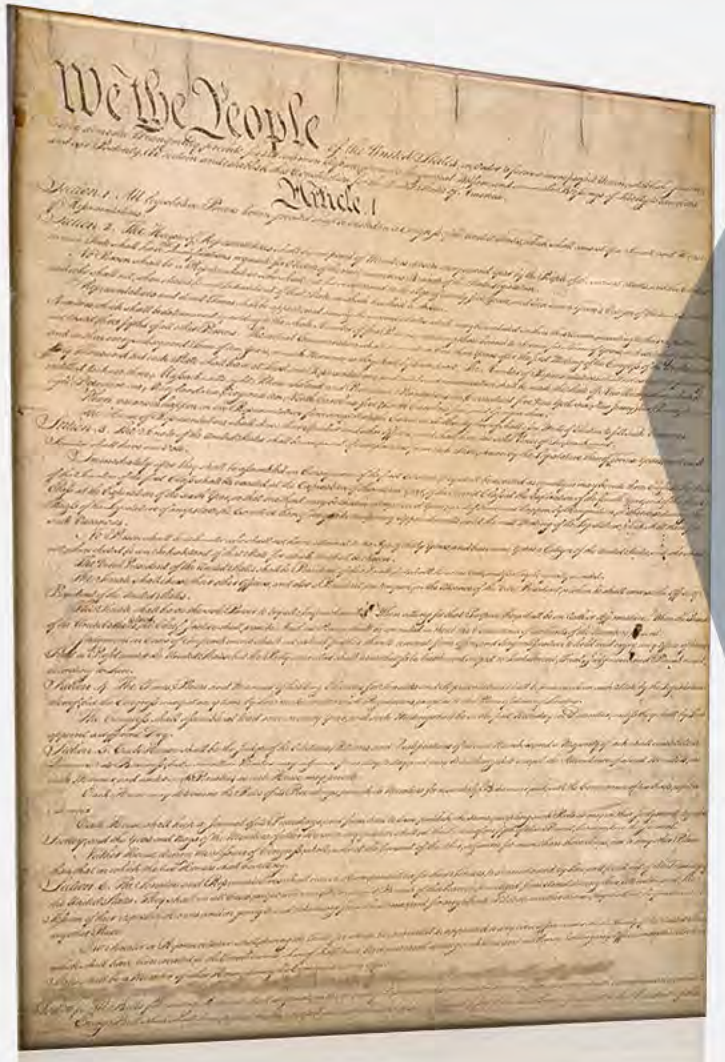
PMC

Closing Statement

The United States Constitution



Congress shall have power ... to promote the progress of science and useful arts by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries.

U.S. Constitution, Art. I, Sec. 8

PMC's History with Apple

Mr. Gerald Holtzman

Tr. 254:4-20

"**[I] thought naively that a company such as Apple might be interested** -- once it learned the nature of the scope of our intellectual property, might be interested in acquiring exclusive rights in certain of our property to supplement whatever rights it may have to enable it to -- to establish bulkheads and beachheads in various of its product lines."

Ms. Kazie Metzger

Tr. 234:18-24

"We thought that they -- that **after six years of back and forth** and asking for information and we provided it and we didn't get anywhere after six years, we felt like **the only way we could protect our rights was to come to court**."

Infringement

Jury Instructions from the Court

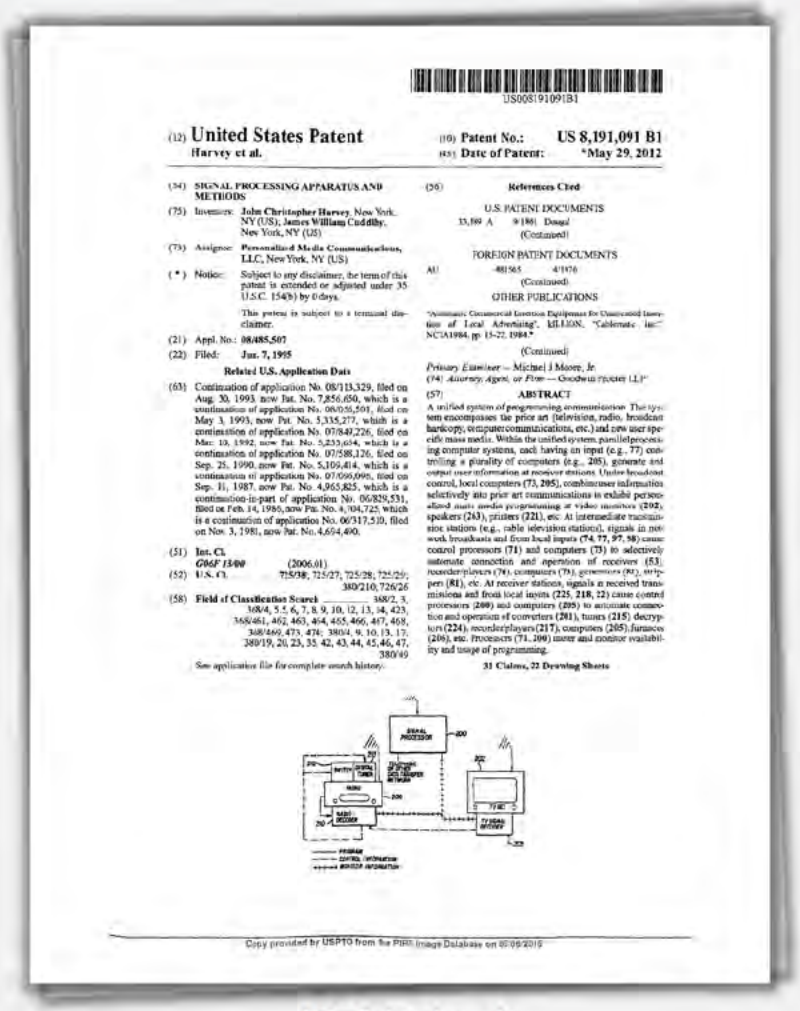
Infringement

The only appropriate comparison is to compare Apple's FairPlay with the language of the claims themselves, as I have explained their meaning to you

Claim 13 of the '091 Patent

13. A method of decrypting programming at a receiver station, said method comprising the steps of:	Infringement
receiving an encrypted digital information transmission including encrypted information;	✓
detecting in said encrypted digital information transmission the presence of an instruct-to-enable signal;	✓
passing said instruct-to-enable signal to a processor;	✓
determining a fashion in which said receiver station locates a first decryption key by processing said instruct-to-enable signal;	✓
locating said first decryption key based on said step of determining;	✓
decrypting said encrypted information using said first decryption key; and	✓
outputting said programming based on said step of decrypting.	✓

Claim 13 of the '091 Patent



US008191091B1

(12) **United States Patent**
Harvey et al.

(10) **Patent No.: US 8,191,091 B1**
(45) **Date of Patent: *May 29, 2012**

(54) **SIGNAL PROCESSING APPARATUS AND METHODS**

(75) Inventors: **John Christopher Harvey**, New York, NY (US); **James William Cuddihy**, New York, NY (US)

(73) Assignee: **Personalized Media Communications, LLC**, New York, NY (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **08/485,507**

(22) Filed: **Jun. 7, 1995**

Related U.S. Application Data

(63) Continuation of application No. 08/113,329, filed on Aug. 30, 1993, now Pat. No. 7,856,650, which is a continuation of application No. 06/055,501, filed on May 3, 1993, now Pat. No. 5,335,277, which is a continuation of application No. 07/849,226, filed on Mar. 10, 1992, now Pat. No. 5,233,654, which is a continuation of application No. 07/588,126, filed on Sep. 25, 1990, now Pat. No. 5,109,414, which is a continuation of application No. 07/096,095, filed on Sep. 11, 1987, now Pat. No. 4,965,825, which is a continuation-in-part of application No. 06/829,531, filed on Feb. 14, 1986, now Pat. No. 4,704,725, which is a continuation of application No. 06/317,510, filed on Nov. 3, 1981, now Pat. No. 4,694,490.

(51) **Int. Cl.**
G06F 13/00 (2006.01)

(52) U.S. Cl. 725/38; 725/27; 725/28; 725/29; 380/210; 726/26

(58) **Field of Classification Search** 380/2, 3, 10/4, 5.5, 6, 7, 8, 9, 10, 12, 13, 14, 423, 368/461, 462, 463, 464, 465, 466, 467, 468, 368/469, 473, 474; 380/4, 9, 10, 13, 17; 380/19, 20, 23, 35, 42, 43, 44, 45, 46, 47, 380/49

See application file for complete search history.

(56) **References Cited**

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(Continued)

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"Automatic Commercial Insertion Equipment for Customized Insertion of Local Advertising", MILLION, "Cablecasting, Inc." NCTA1984, pp. 15-22, 1984.*
(Continued)

Primary Examiner — Michael J Moore, Jr.
(74) *Attorney, Agent, or Firm* — Goodwin Procter LLP

(57) **ABSTRACT**

A unified system of programming communication. The system encompasses the prior art (television, radio, broadcast hardcopy, computer communications, etc.) and new user specific mass media. Within the unified system, parallel processing computer systems, each having an input (e.g., 77) controlling a plurality of computers (e.g., 205), generate and output user information at receiver stations. Under broadcast control, local computers (73, 205), combine user information selectively into prior art communications to exhibit personalized multi-media programming at video monitors (202), speakers (263), printers (221), etc. At intermediate transmission stations (e.g., cable television stations), signals in network broadcasts and from local inputs (74, 77, 97, 58) cause control processors (71) and computers (73) to selectively automate connection and operation of receivers (53), recorder/players (74), computers (73), generators (82), strippers (81), etc. At receiver stations, signals in received transmissions and from local inputs (225, 218, 72) cause control processors (209) and computers (205) to automate connection and operation of converters (201), tuners (215), decryptors (224), recorder/players (217), computers (205), furnaces (206), etc. Processors (71, 209) meter and monitor availability and usage of programming.

31 Claims, 22 Drawing Sheets

Copy provided by USPTO from the PIRS Image Database on 05/09/2019

'091 Patent

13. A method of decrypting programming at a receiver station, said method comprising the steps of:

receiving an encrypted digital information transmission including encrypted information;

detecting in said encrypted digital information transmission the presence of an instruct-to-enable signal;

passing said instruct-to-enable signal to a processor;

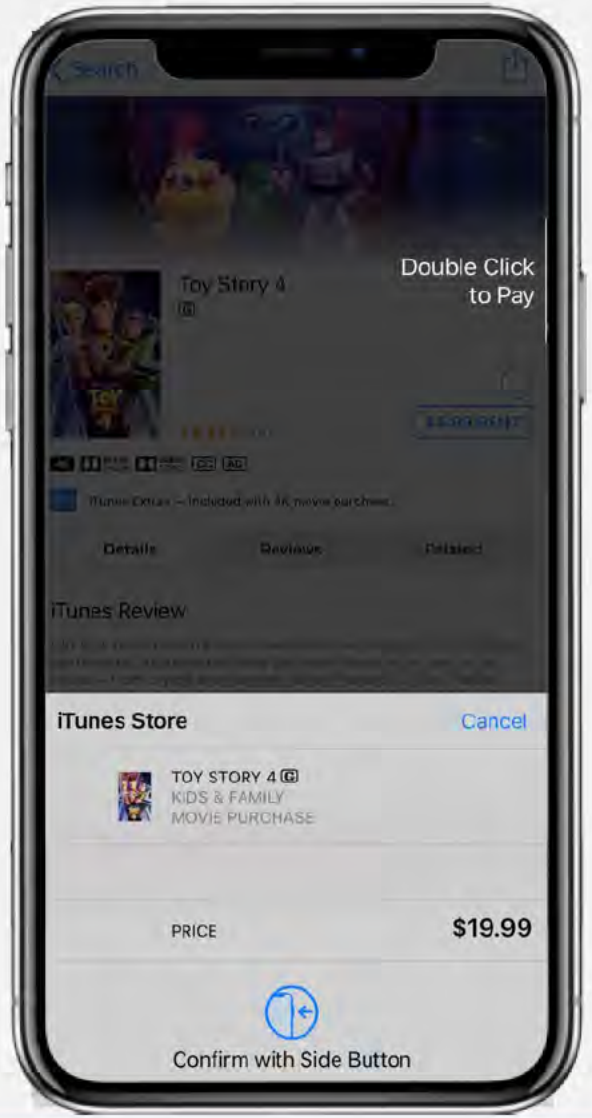
determining a fashion in which said receiver station locates a first decryption key by processing said instruct-to-enable signal;

locating said first decryption key based on said step of determining;

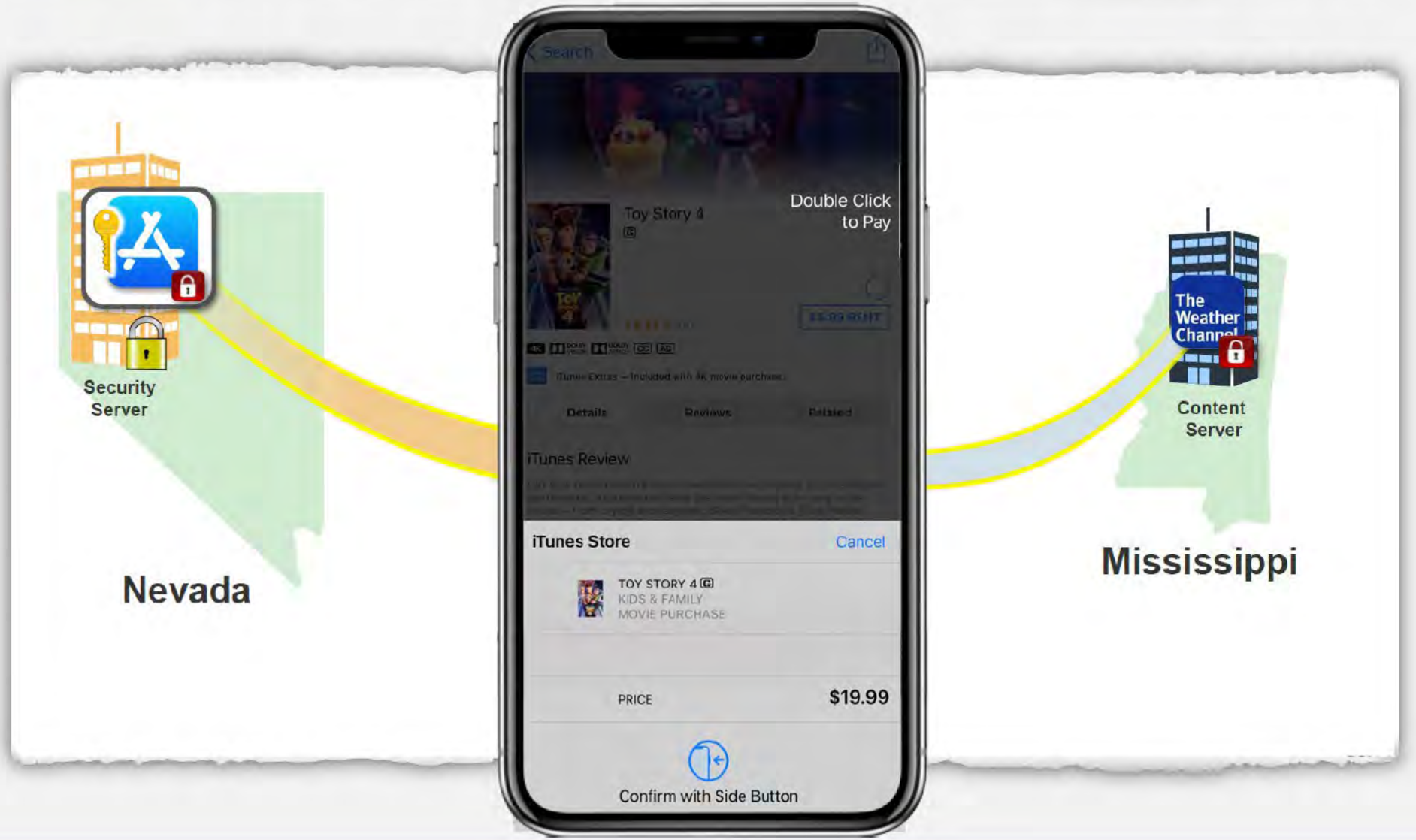
decrypting said encrypted information using said first decryption key; and

outputting said programming based on said step of decrypting.

13. A method of decrypting programming at a receiver station, said method comprising the steps of:



13. A method of decrypting programming at a receiver station, said method comprising the steps of:



13. A method of decrypting programming at a receiver station, said method comprising the steps of:

receiving an encrypted digital information transmission including encrypted information;

response from iTunes

receiving an encrypted digital information transmission including encrypted information;

Court's Construction

encrypted digital information transmission

"all-digital information that has been encrypted and moved between at least two devices."

receiving an encrypted digital information transmission including encrypted information;

Dr. Stephen Wicker

Tr. 891:4-10

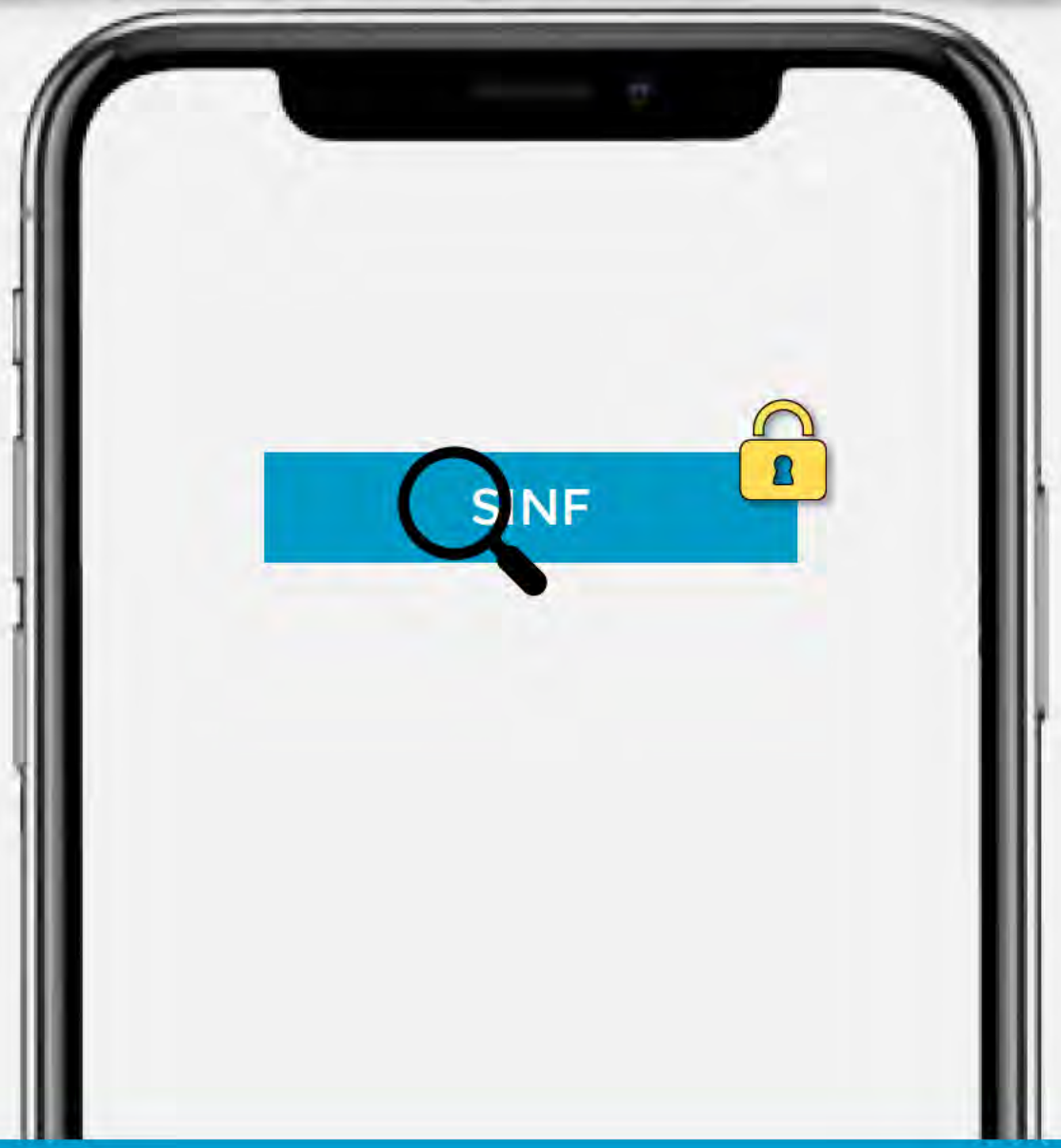
Q. But we still refer to the movie as encrypted in our example, correct?

A. That's right. **It's encrypted in that a large portion is encrypted** and it cannot be used at all.

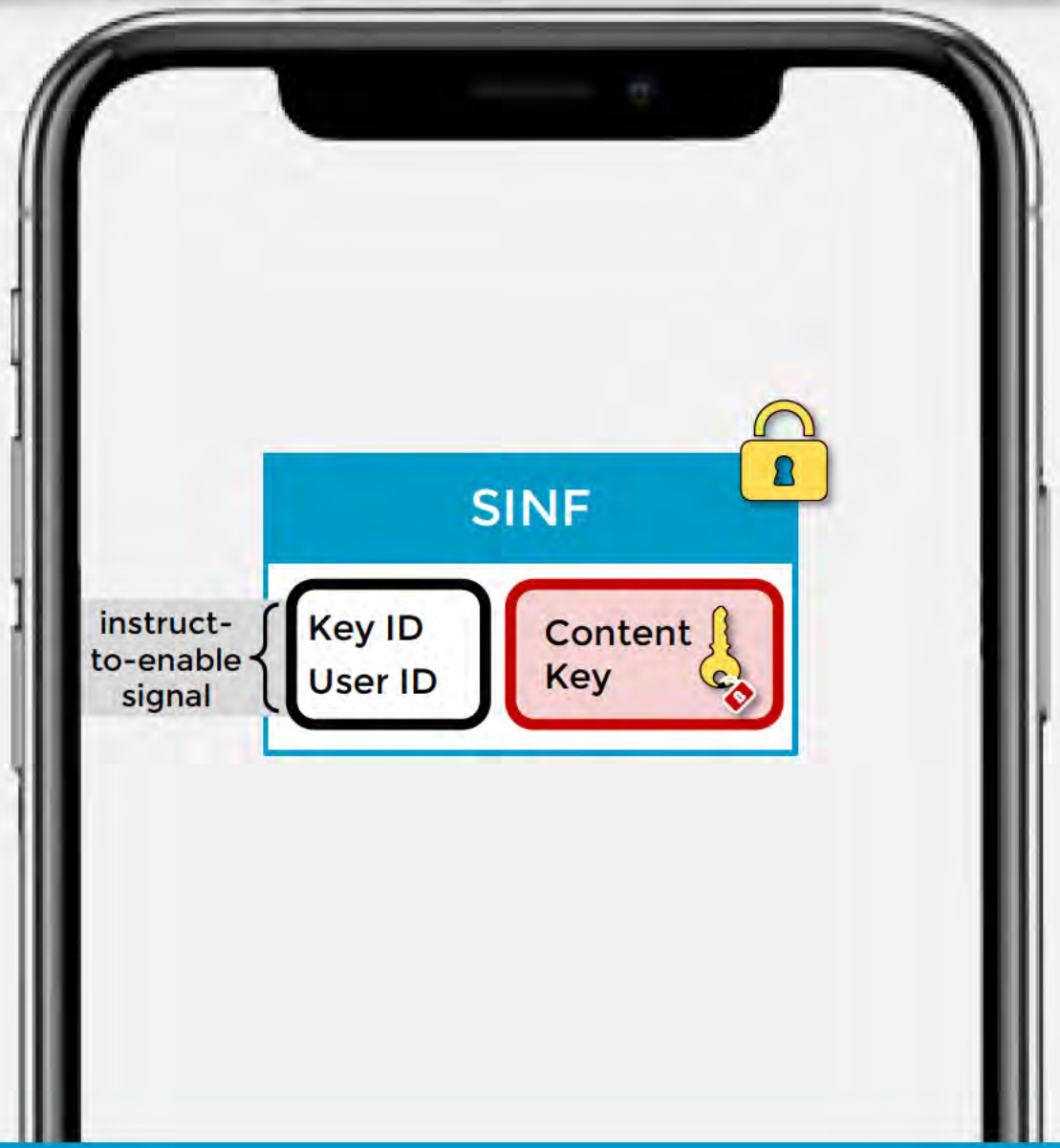
Q. But there is a portion of the video in our example that is not encrypted, right?

A. That is correct.

detecting in said encrypted digital information transmission the presence of an instruct-to-enable signal;



detecting in said encrypted digital information transmission the presence of an instruct-to-enable signal;



Court's Construction

instruct-to-enable signal

"a signal that enables the implementation of the enumerated operation."

Court's Construction

instruct-to-enable signal

"a signal that enables the implementation of the enumerated operation."

Dr. Stephen Wicker

Tr. 860:4-11

Q. Now, before the account ID and the key ID are obtained, the system would not be **able** to retrieve the appropriate key, correct?

A. That's correct.

Q. Without the account ID and the key ID from the SINF, the FairPlay module on the user device would not be **able** to identify the correct account key from the keybag, correct?

A. That's right.

Apple Applies the Wrong Claim Construction

Dr. Stephen Wicker

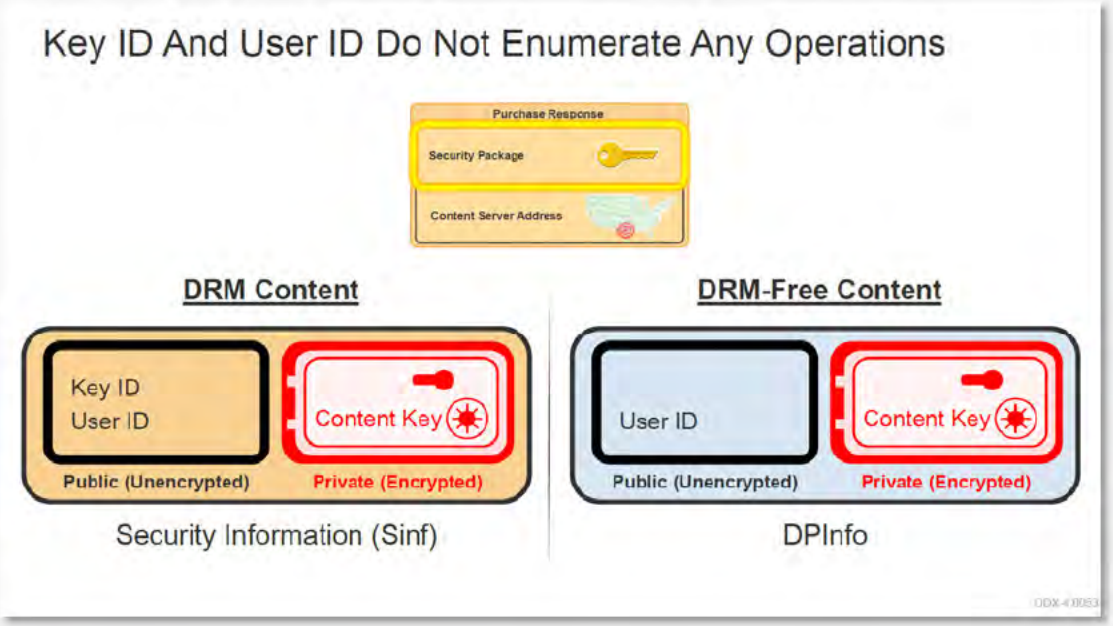
Tr. 891:11-17

Q. And the Court has instructed us that instruct-to-enable signal is a signal that enables the implementation of the enumerated operation, correct?

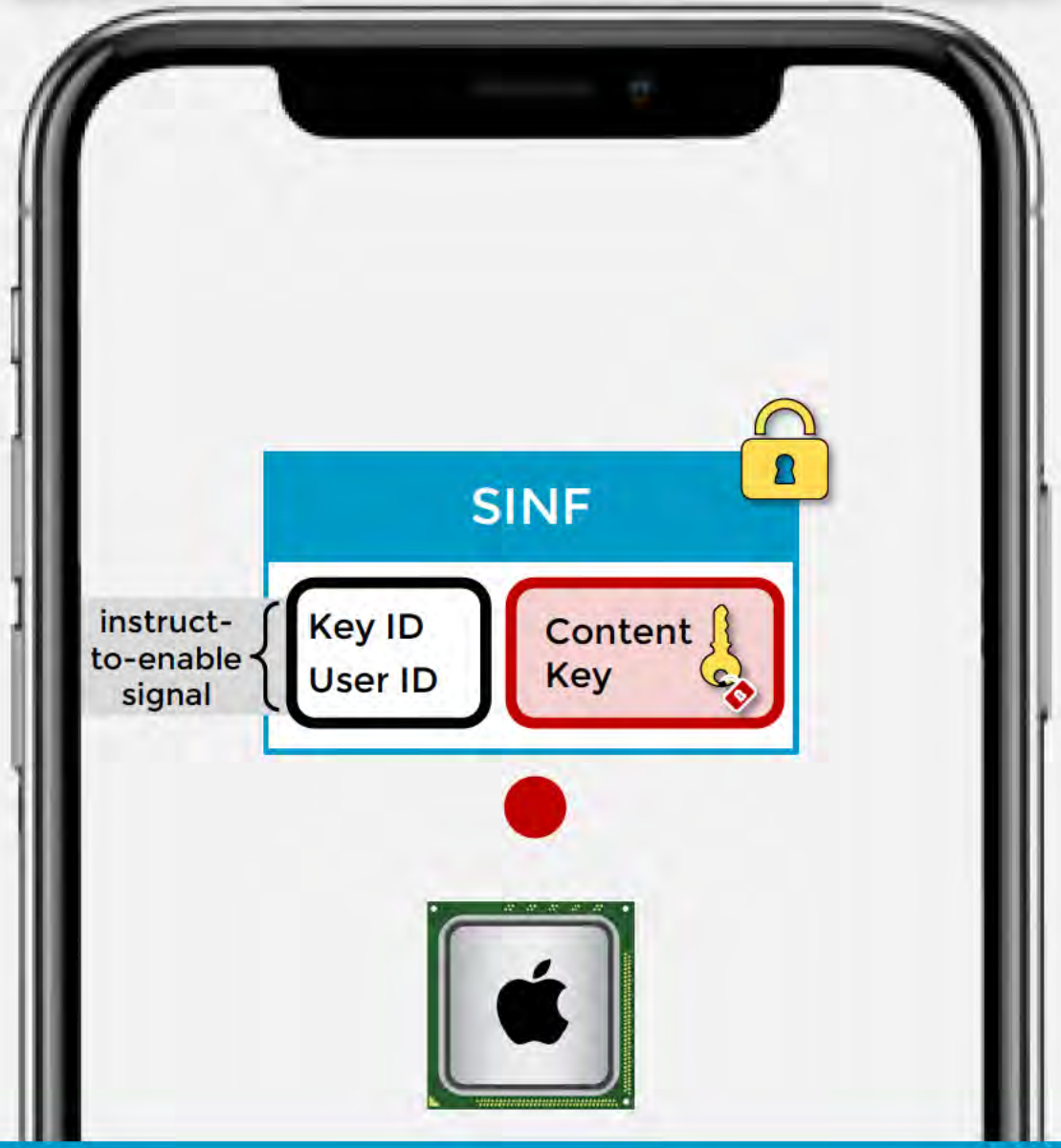
A. That's correct.

Q. The construction is not a signal that enumerates an operation, right?

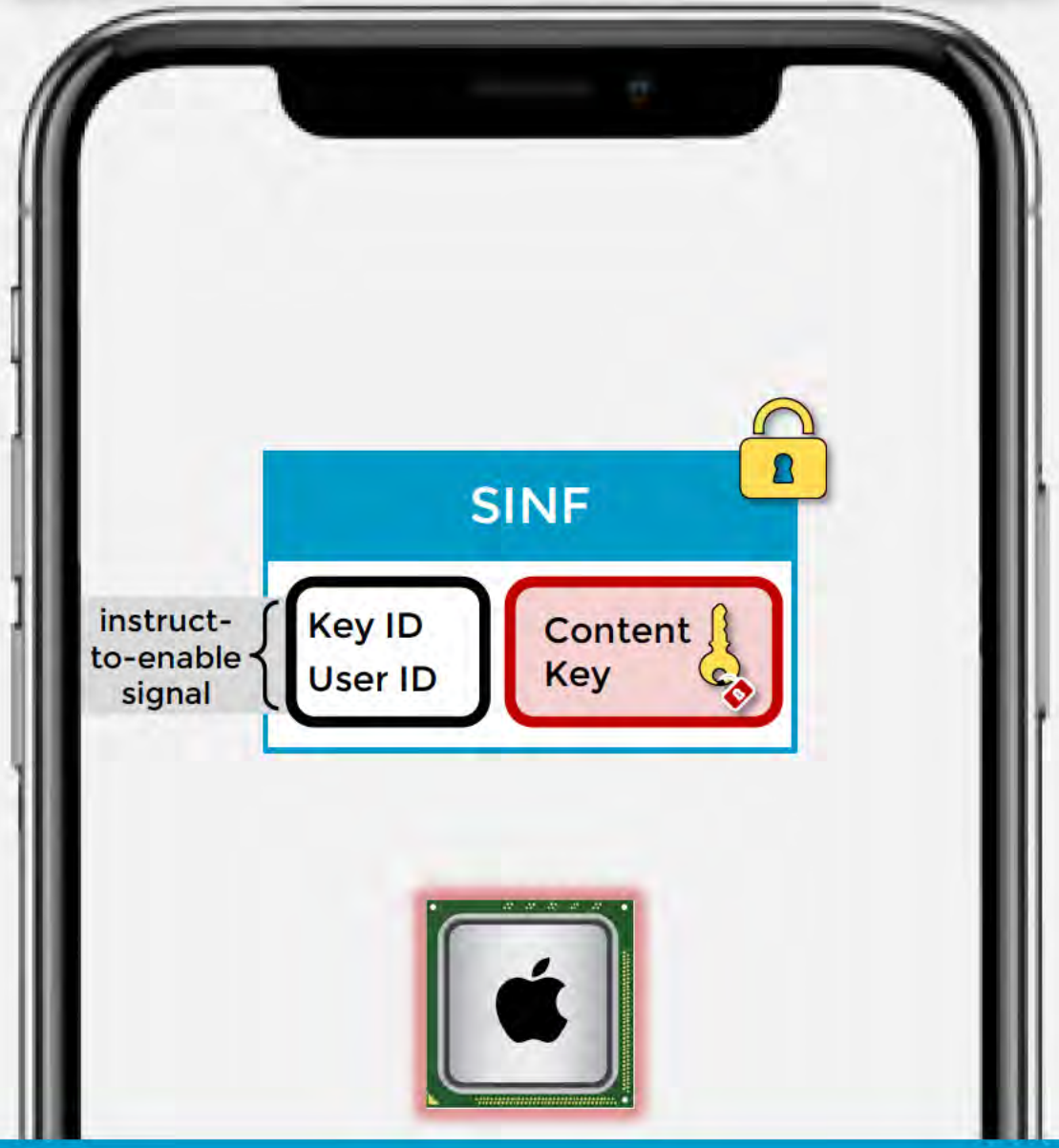
A. That's correct.



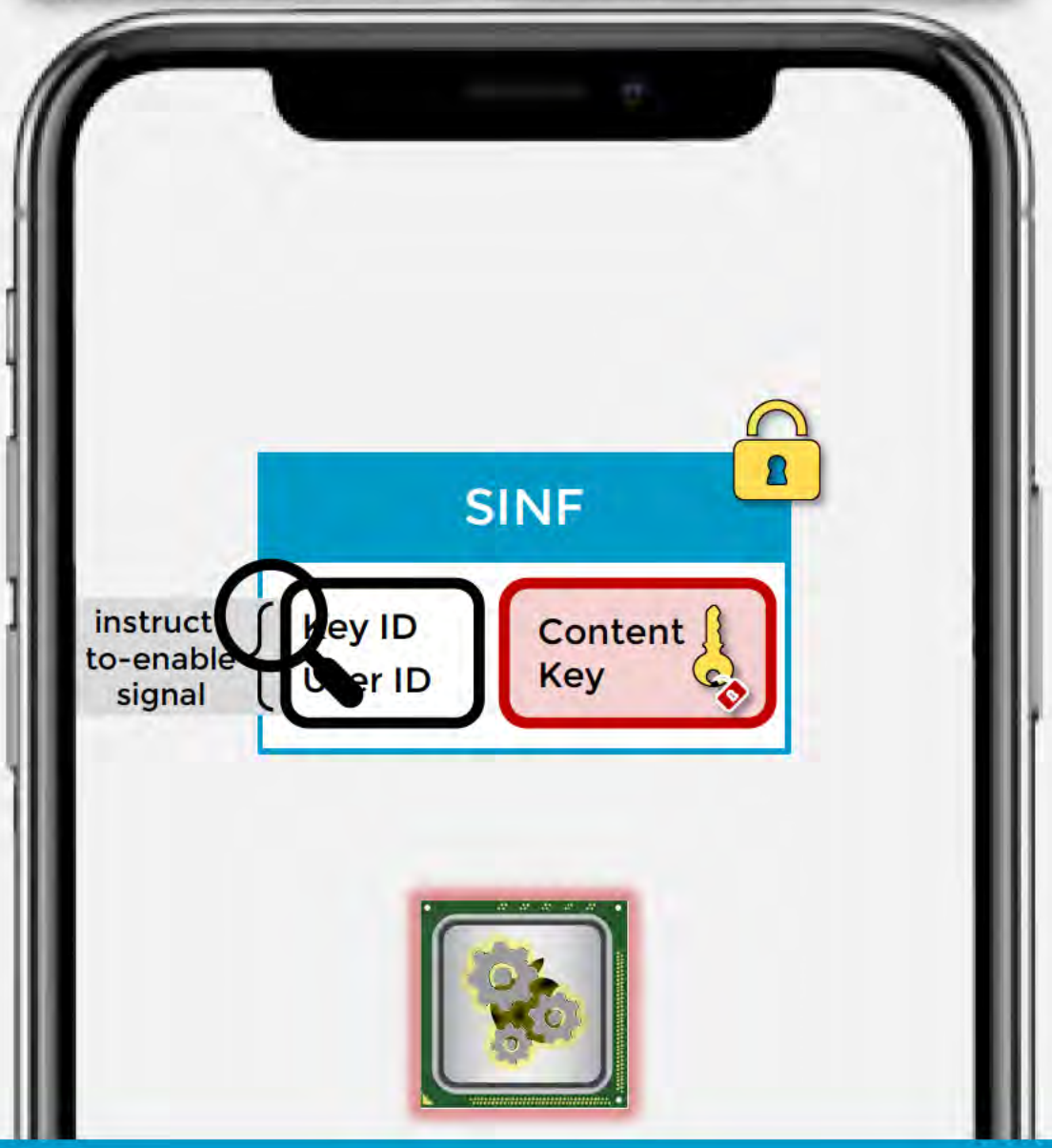
passing said instruct-to-enable signal to a processor;



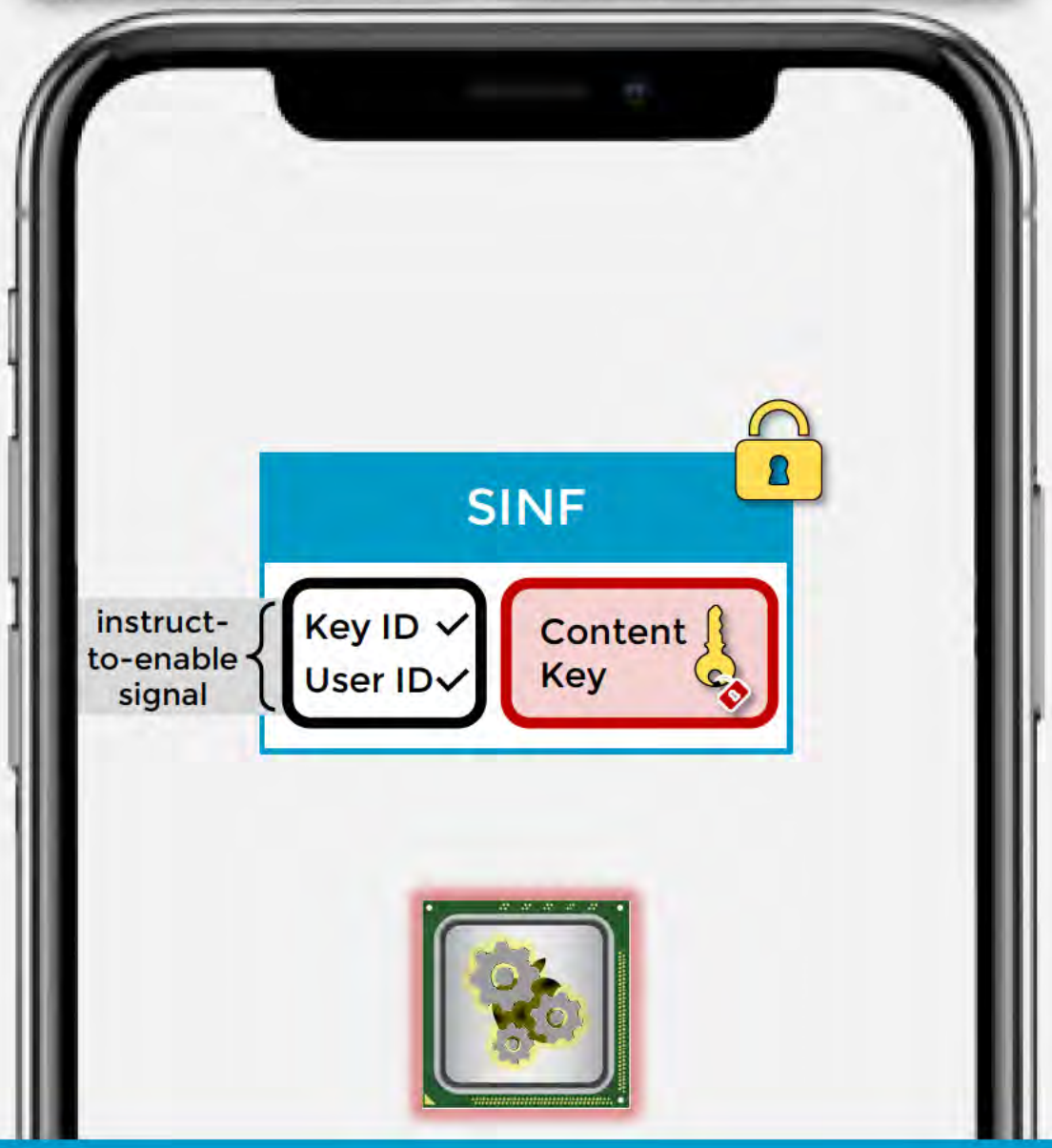
passing said instruct-to-enable signal to a processor;



determining a fashion in which said receiver station locates a first decryption key by processing said instruct-to-enable signal;



determining a fashion in which said receiver station locates a first decryption key by processing said instruct-to-enable signal;



Court's Construction

determining a fashion

"determining the way that the receiver station locates a first decryption key."

Court's Construction

determining a fashion

"determining the way that the receiver station locates a first decryption key."

Dr. Stephen Wicker

Tr. 808:16-20; 821:1-5; 827:20-23

Q. And how many keys are on the iPhone?

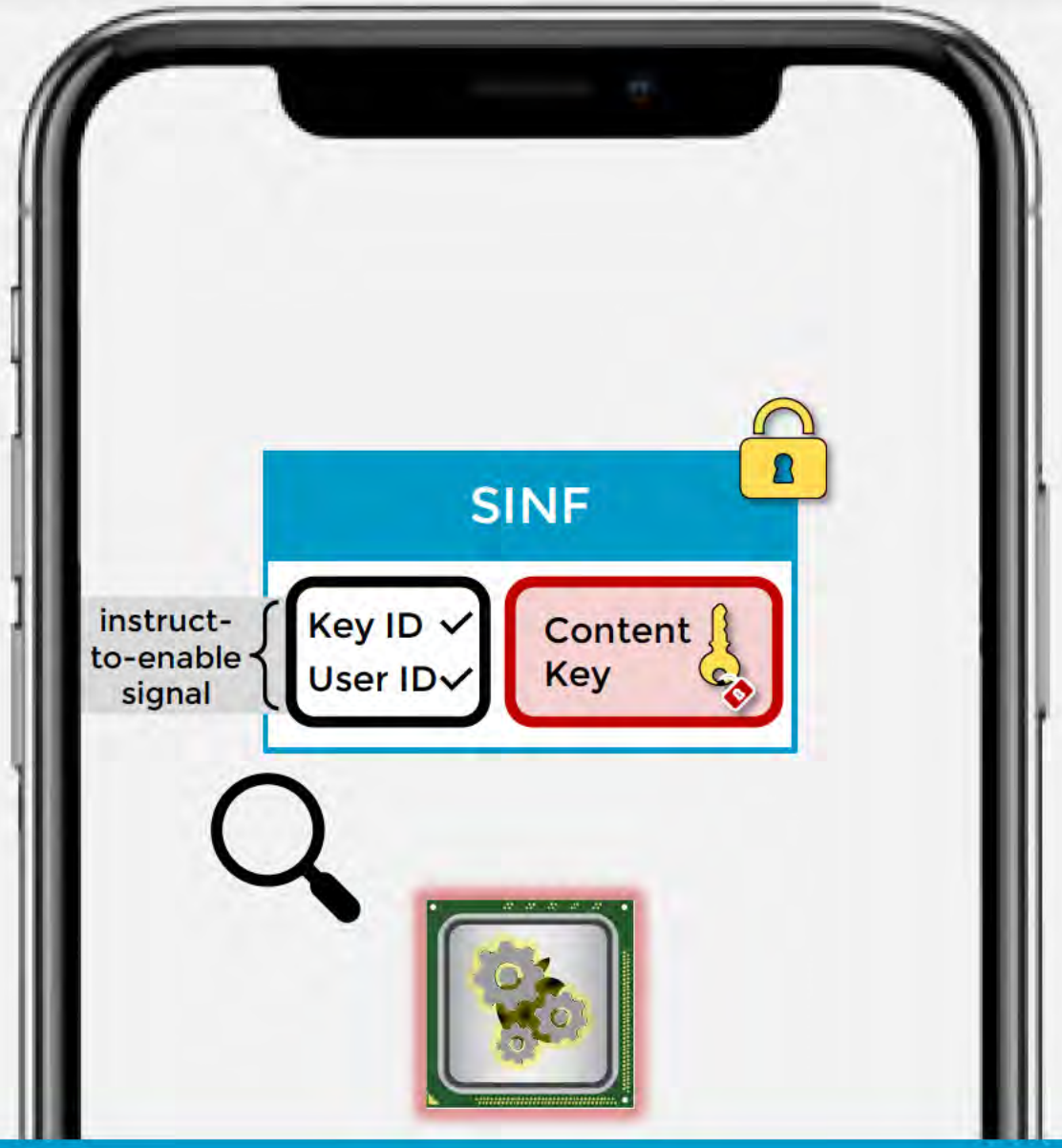
A. There could be several. There could literally be a dozen. The point is there are -- there's more than one, generally speaking. And so this key ID will point to the particular key that will decrypt the content.

A. [Apple device] takes the data, and the program uses it in a **certain way** so that content key is decrypted, content key is then used to decrypt the app, in my example, and then you can use the app to find out what the weather is going to be like.

Q. So let's turn to DPInfo on the next slide, and can you explain how that works?

A. Okay. So this is a **different way** of getting that key that will in turn decrypt the content key.

locating said first decryption key based on said step of determining;



locating said first decryption key based on said step of determining;

Q. The account ID and the key ID are used to identify the particular key in the keybag needed the account key, correct?

A. **Yes.**

Dr. Stephen Wicker

Tr. 859:25-860:3

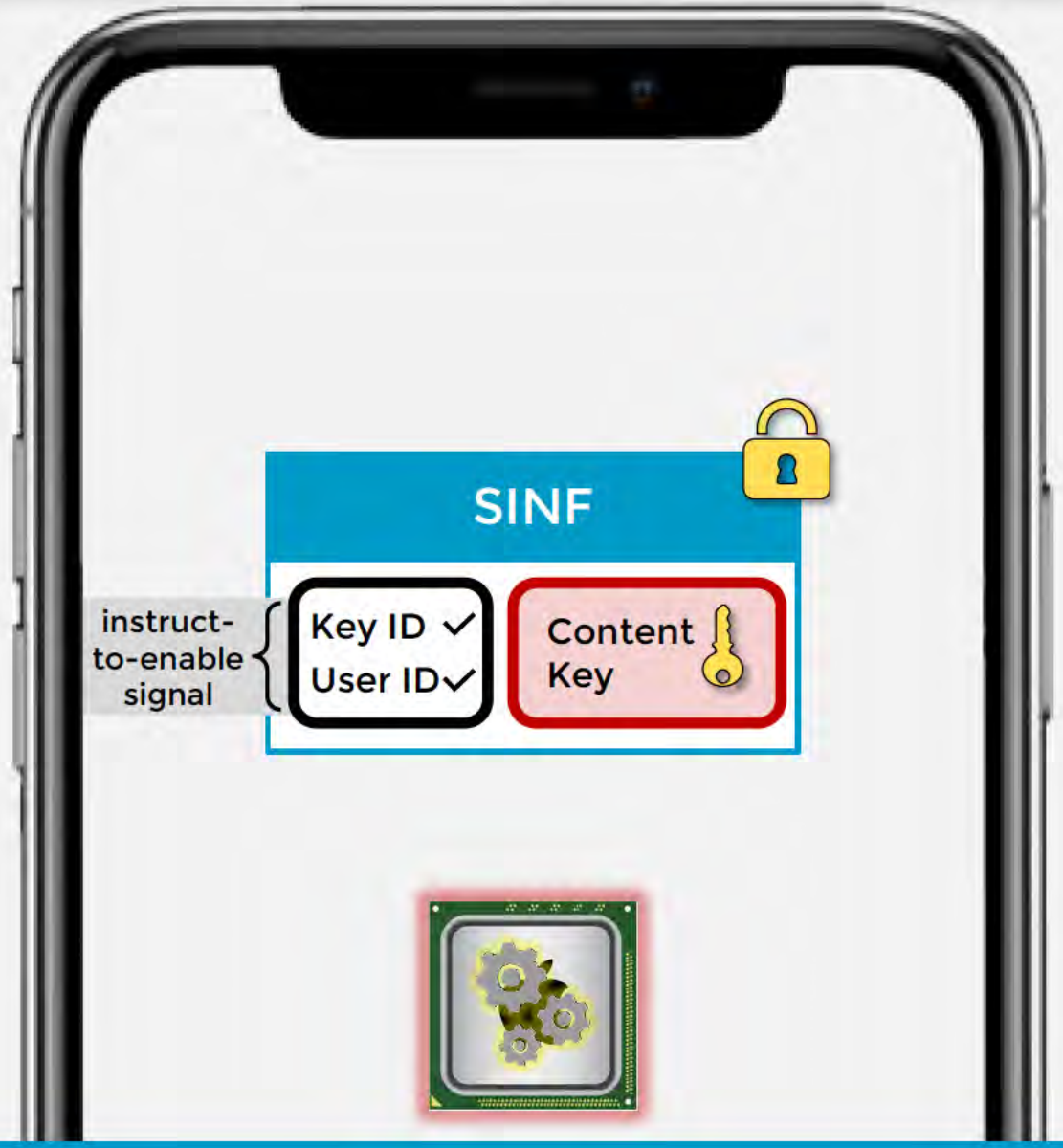
PDX-CL-18B

decrypting said encrypted information using said first decryption key; and

UNDISPUTED

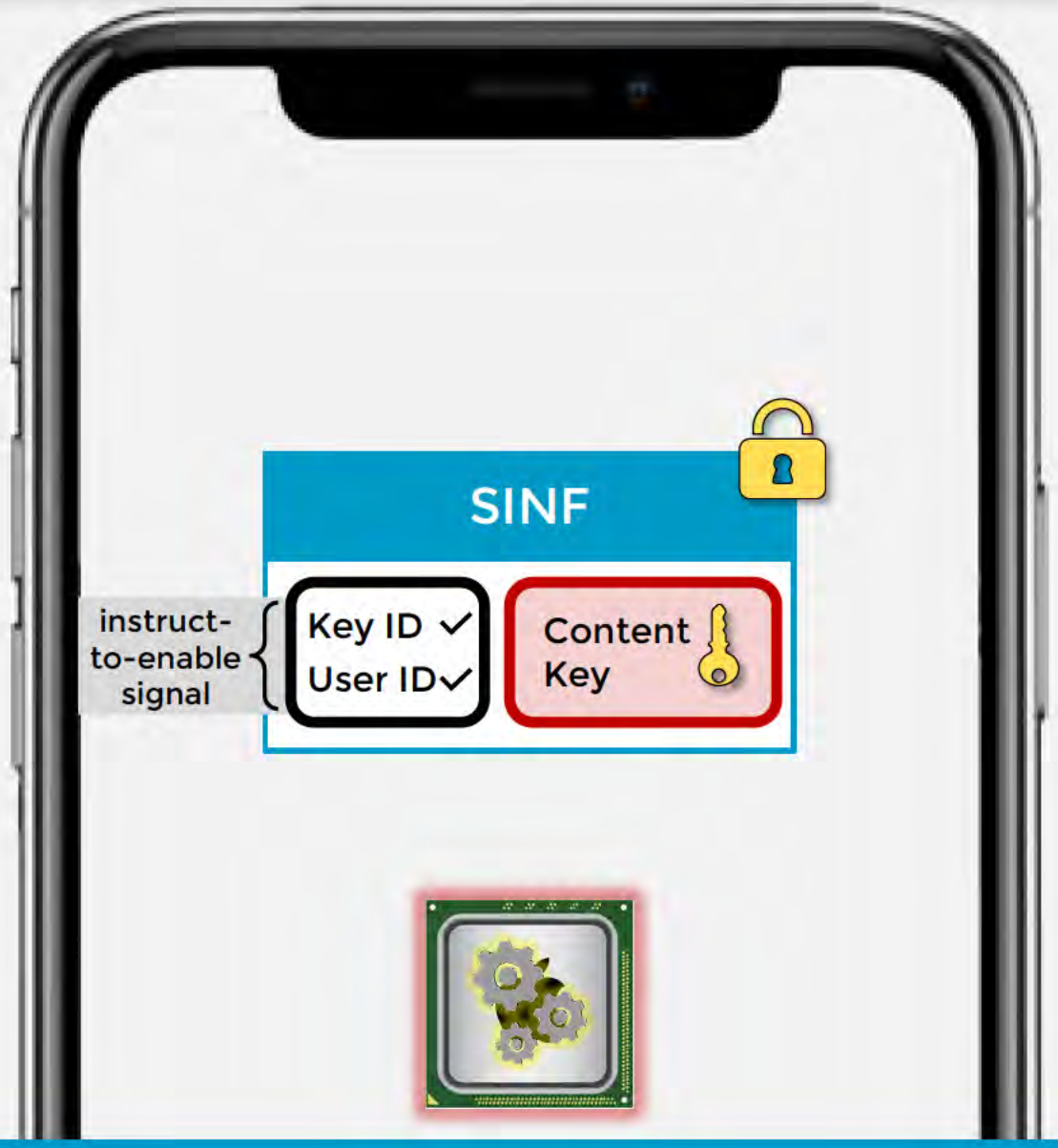
PDX-CL-19A

decrypting said encrypted information using said first decryption key; and



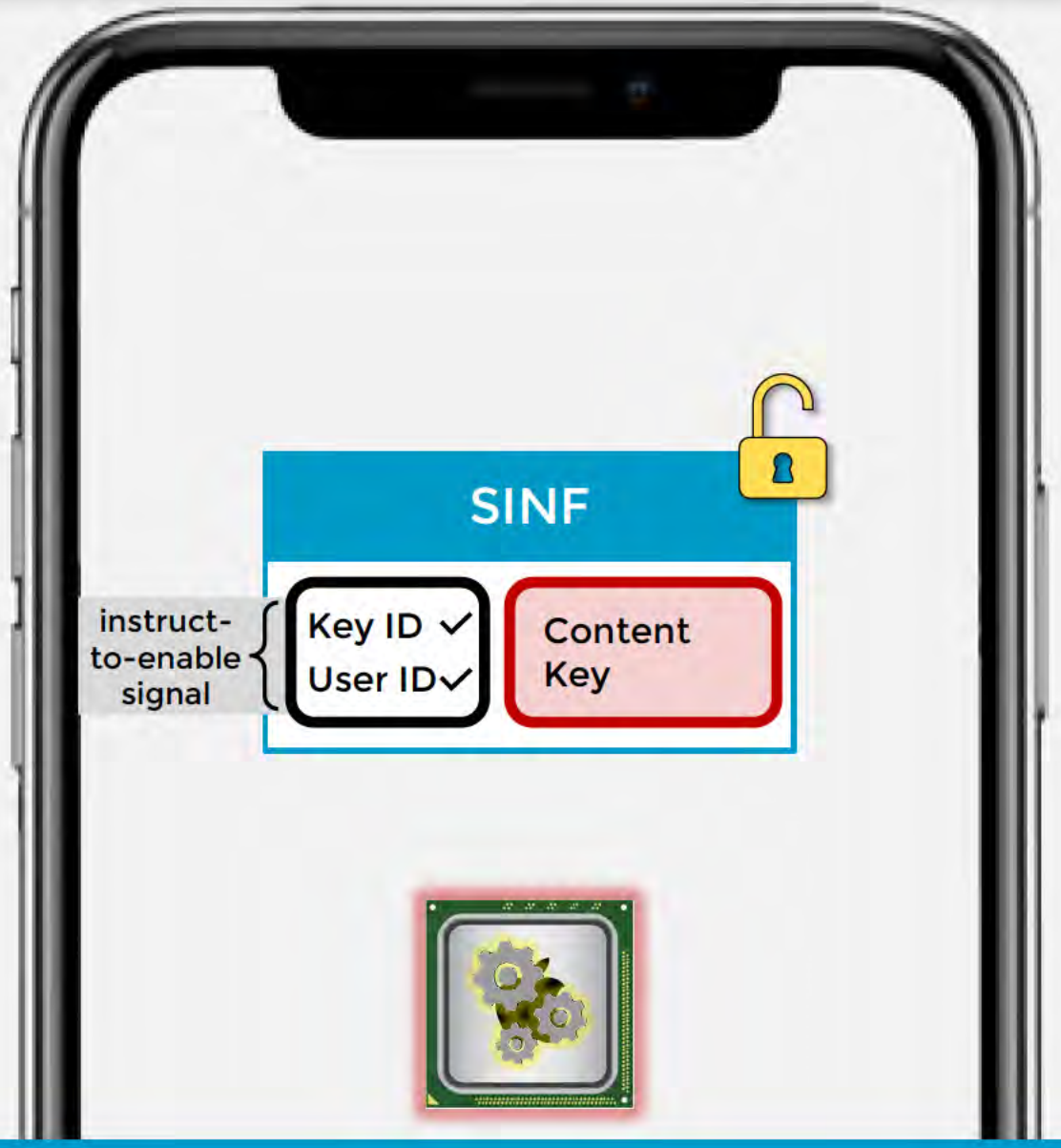
UNDISPUTED

outputting said programming based on said step of decrypting.



UNDISPUTED

outputting said programming based on said step of decrypting.



UNDISPUTED

outputting said programming based on said step of decrypting.

UNDISPUTED

Jury Instructions from the Court

Infringement

PMC has accused Apple of indirect infringement. There are two types of indirect infringement: (1) active inducement and (2) contributory infringement.

FairPlay Has No Use Other Than Decryption

Dr. Alf Weaver

Tr. 526:21-25

Q. The decryption features of FairPlay on iPhones that you talked quite a bit about, **does that decryption feature have any purpose that you consider to be non-infringing to the '091 patent**?

A. **No**.

Roger Pantos

Tr. at 722:14-22

Q. And when -- if somebody thinks about, you know, what other devices, like a smartphone or a tablet, **is FairPlay used for any of the other functions other than downloading**, like making calls or surfing the Internet, doing emails or anything like that?

A. **No**, FairPlay protects content downloads, including app downloads. But when you're running the app or you're browsing the web or you're, you know, looking at your email, you're not using FairPlay for that.

Timeline of PMC/Apple Discussions

PMC → Apple

Apple → PMC

May 14 2008

May 29, 2012

2008 2009 2010 2011 2012 2013 2014

Apr 8, 2010 Meeting

Aug 29, 2011 Meeting

Nov 14, 2011 Meeting

Additional Meetings

- Daniel Cooperman
- Ed Scott
- Boris Teksler
- Patrick Murphy
- Jayna Whitt
- Heather Mewes

"No one -- no one ever told me from Apple that 'Your patents don't intersect with our products.'"

Mr. Gerald Holtzman
Tr. 257:21-22

PDX-CL-23

PMC Told Apple About Its Decryption Technology

Mr. Gerald Holtzman

From: Gerald Holtzman [gholtzman@bssmail.biz]
Sent: Monday, April 12, 2010 11:45 AM
To: Edward W. Scott IV; Boris Teksler
Cc: Boyd Lemna
Subject: PMC and Apple: Meaning of Control Signals in the PMC Claims

Hi Ed and Boris,

Reflecting on our meeting, I want to be sure that we have explained adequately what's meant in the PMC portfolio (issued and new patents) when we speak of transmitted "control signals". This matters since the interaction

program material." Another example is the "instruct-to-decrypt" signal found in several claims of Patent 5,335,277, such as claim 19, which instructs the the selected decryptor to decrypt the relevant portion of the transmission.

PTX 1152

Apple Turned a Blind Eye to PMC's Patents

Ms. Heather Mewes

Tr. 284:10-24

Q. Do you know if Apple ever does clearance searches?

A. I'm not aware of any. I mean, it's something we would consider if it makes sense in a particular circumstance, but it's certainly not a policy to do clearance searches because we've generally made the evaluation that they don't make sense.

Ms. Jayna Whitt

Tr. at 296:7-10
297:7-11
297:24-298:3

Q. Is any effort done to investigate or track any still-pending applications that are related to patents that individuals put forth to Apple?

A. **No. We usually ask parties to keep us apprised**...

Q. So you said that currently Apple doesn't track pending applications, but rather asks the individual with the patent or patents to inform Apple of any new patents or things of that nature; is that correct?

A. **That's right**...

Q. Are you aware of any instances where Apple did track pending applications or prosecution -- changes in prosecution history in patents that individuals had brought to Apple to license?

A. **No, I'm not**...

PDX-CL-25

Don't Let Apple Mislead You

1. "Separation"

2. Apple Patents

3. Belittling the '091 Patent

Don't Let Apple Mislead You

1. "Separation"

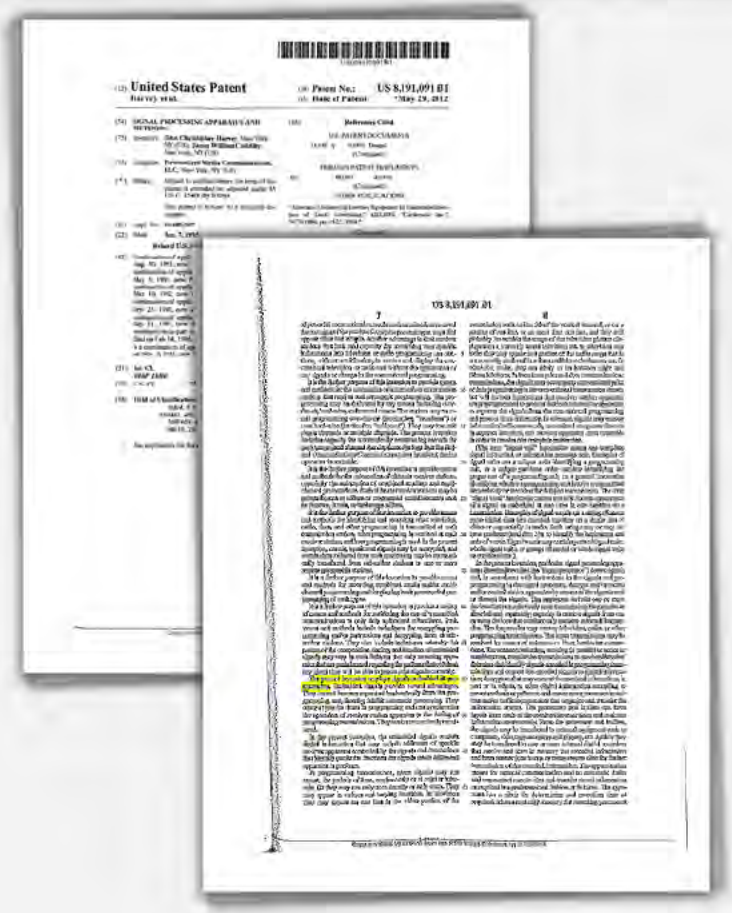
2. Apple Patents

3. Belittling the '091 Patent

"[E]verything is separated in terms of how it's approached, separating everything from the encrypted content, separate transmissions." Tr. 202:14-16

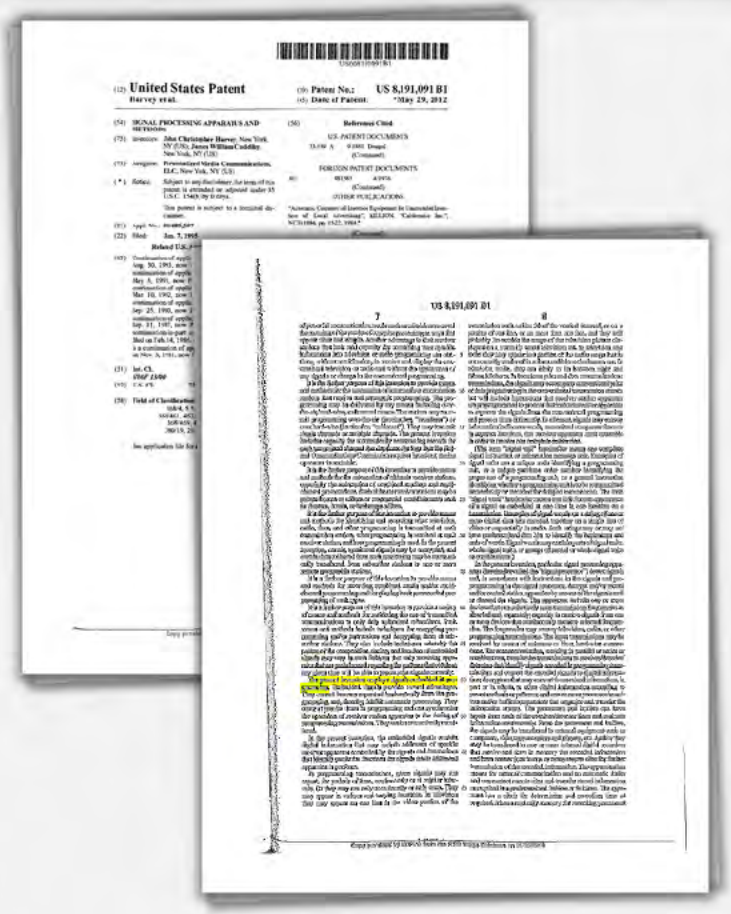
Claim Does Not Require "Embedded" Signals

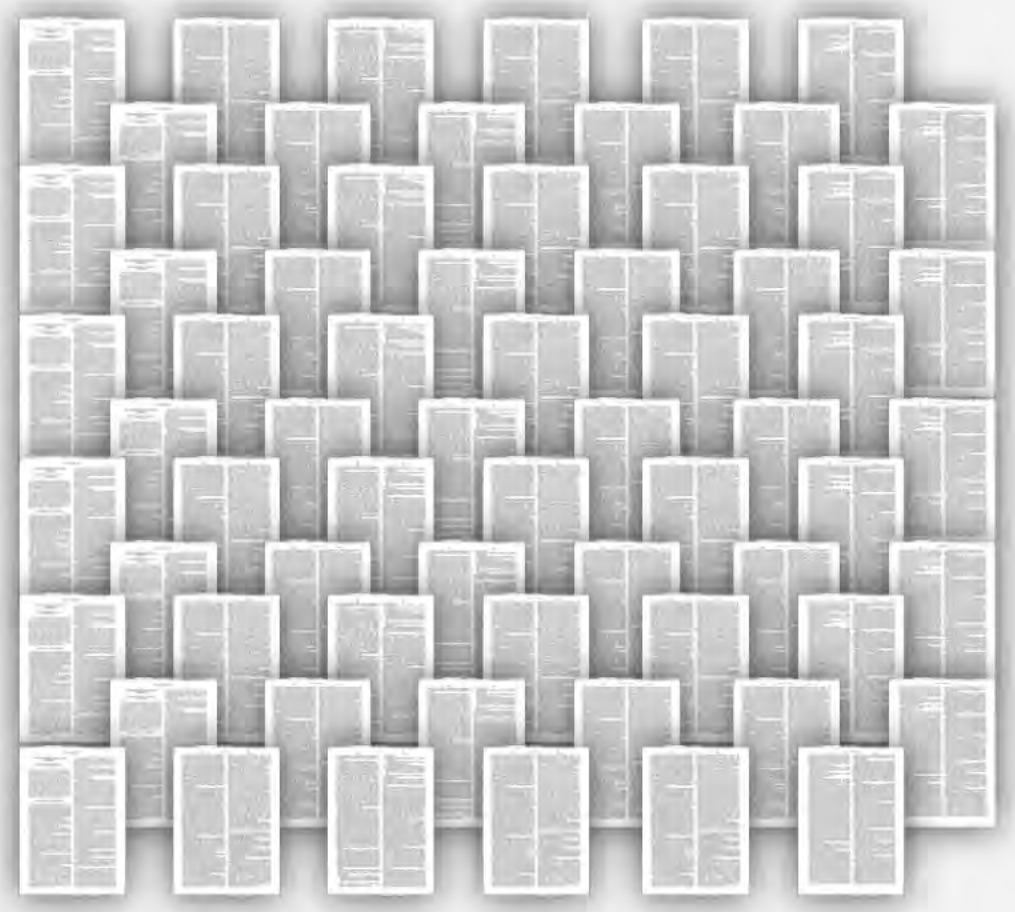
The present invention employs signals embedded in programming. Embedded signals provide several advantages.



Claim Does Not Require "Embedded" Signals

The present invention employs signals embedded in programming. Embedded signals provide several advantages.





Claim Does Not Require "Embedded" Signals

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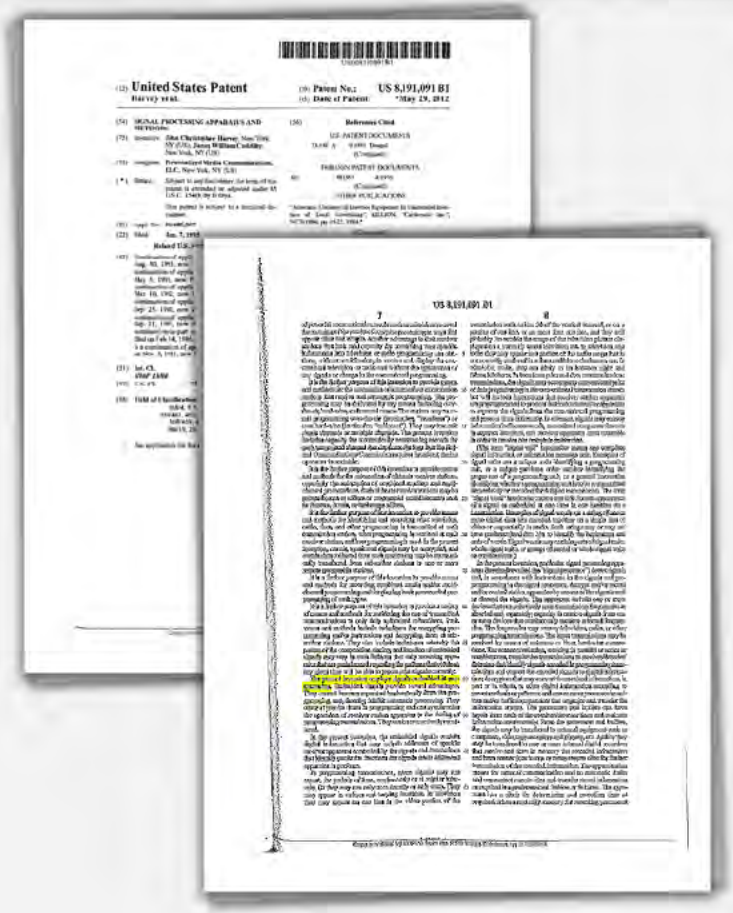


13. A method of decrypting programming at a receiver station, said method comprising the steps of:

receiving an encrypted digital information transmission including encrypted information;

detecting in said encrypted digital information transmission the presence of an instruct-to-enable signal;

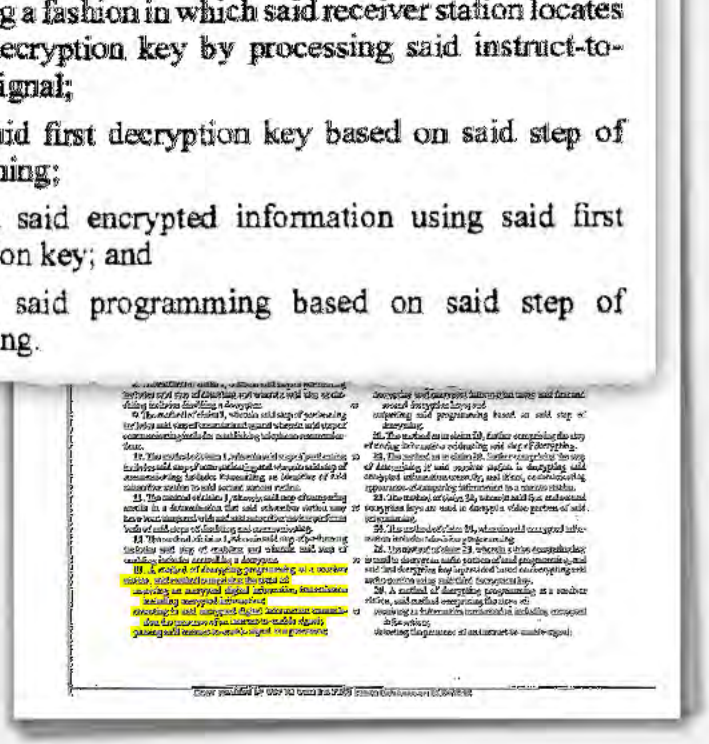
passing said instruct-to-enable signal to a processor;

determining a fashion in which said receiver station locates a first decryption key by processing said instruct-to-enable signal;

locating said first decryption key based on said step of determining;

decrypting said encrypted information using said first decryption key; and

outputting said programming based on said step of decrypting.



Don't Let Apple Mislead You

1. "Separation"

2. Apple Patents

3. Belittling the '091 Patent

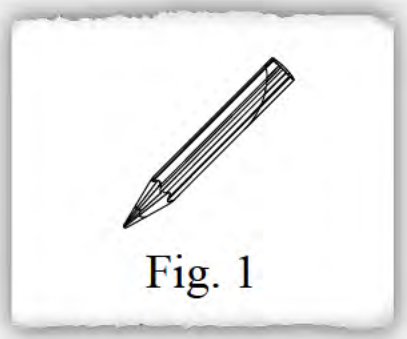
Jury Instructions from the Court

Comprising

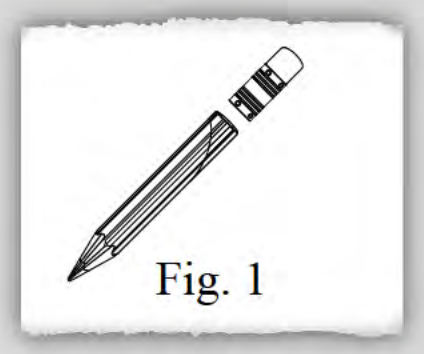
Comprising means including or containing. When the word "comprising" is used, a product that includes all the limitations or elements of the claim, as well as additional elements, is covered by the claim.

Apple's Patents Aren't Relevant

"pencil"



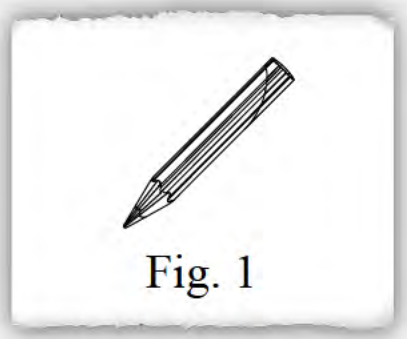
"pencil with eraser"



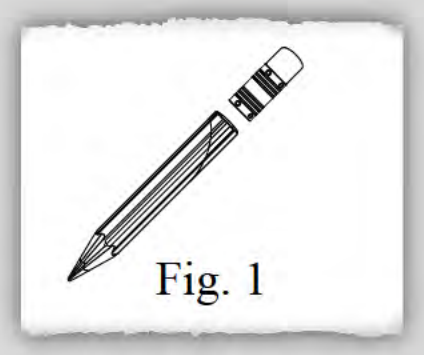
PDX-CL-32A

Apple's Patents Aren't Relevant

"pencil"



"pencil with eraser"



PDX-CL-32B

Jury Instructions from the Court

Infringement

The fact that a person accused of infringement has its own patents does not mean that it cannot infringe someone else's patents.

Don't Let Apple Mislead You

1. "Separation"

2. Apple Patents

3. Belittling the '091 Patent

Technology with "Staying Power"

Dr. Stephen Wicker

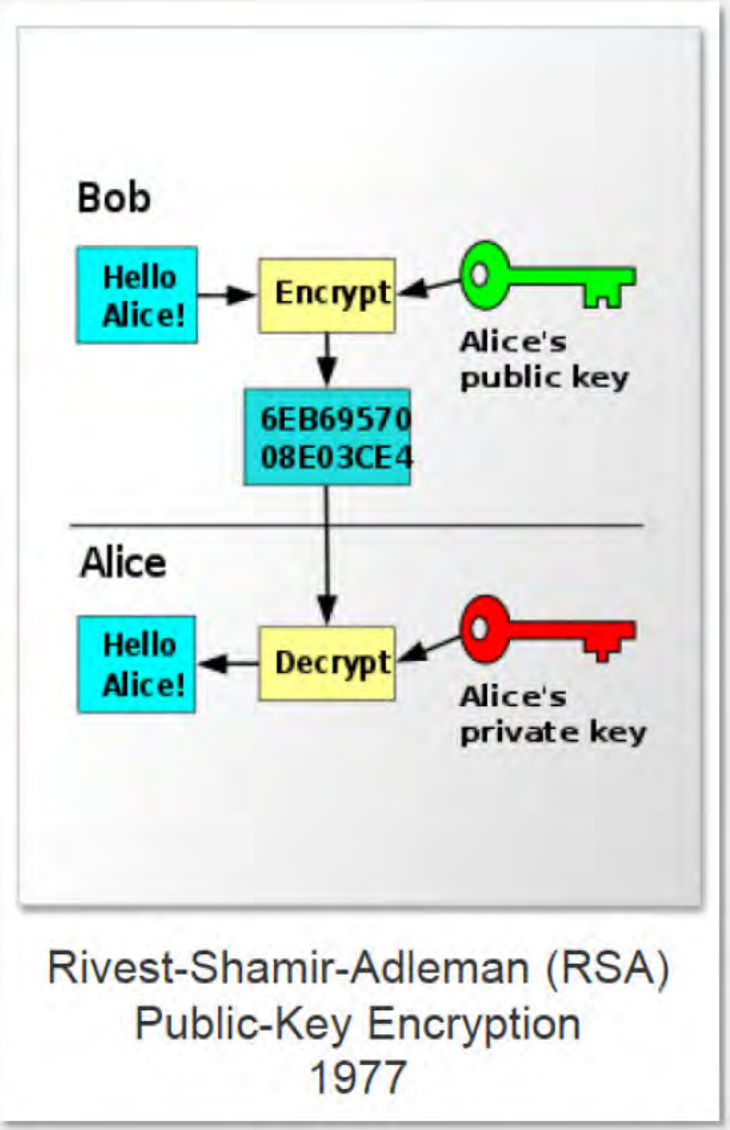
Tr. 900:17-25; 901:7-15

Q. So technology doesn't become obsolete simply because it came out a long time ago, correct?

A. That's true.

Q. Some technology has real staying power, right?

A. Certainly true.



Rivest-Shamir-Adleman (RSA) Public-Key Encryption 1977

2012: 30-Year Overnight Success

"He was -- he had a vision of how technology was going to develop, and that's why he filed a 500-page patent application describing all the things that he thought were going to come to pass."

Ms. Kazie Metzger

Tr. 238:20-25

PDX-CL-36

PMC Licenses

DIRECTV 2013

The Weather Channel 1996

SONY 1995, 2012

dish 2015

zynga 2014

VIZIO 2016

CISCO 2011

TiVO 2000

STAR SIGHT 1994

LG 2019

FUNAI 2017

GEMSTAR TV GUIDE TV GUIDE 2000

SAMSUNG 2017

ARRIS 2015

Haier 2017

Hisense 2018

THTF Global 2018

Panasonic 2014

SHARP 2015

TOSHIBA 2016

motorola 2011

TCL 2018

[redacted]

PDX-CL-37

Damages

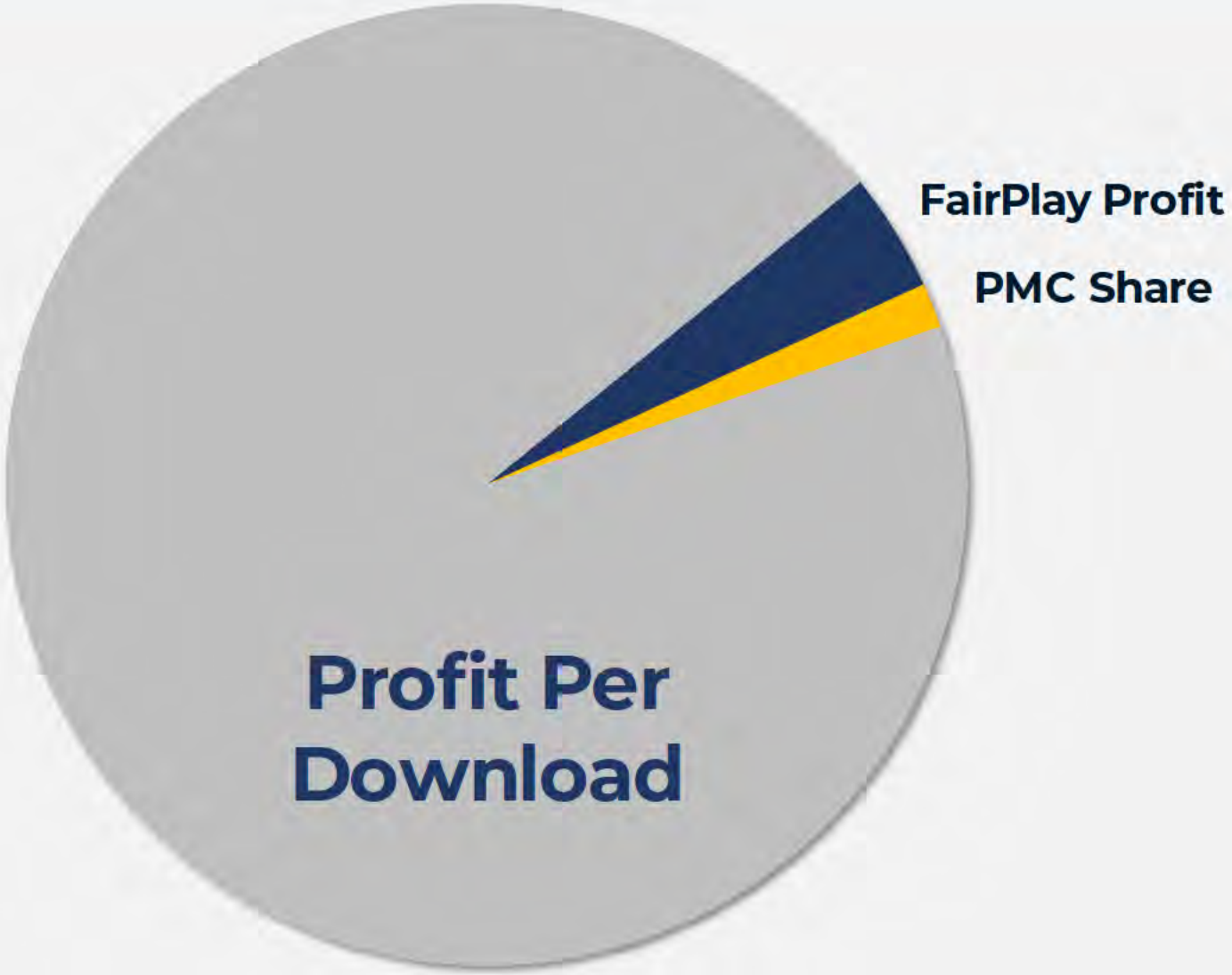
FairPlay "Essential" to iTunes and App Store

Roger Pantos

Technical Lead, Media Streaming

- iTunes makes Apple devices "attractive" to consumers
- FairPlay is "essential" to iTunes

Mr. Pellegrino's Analysis



Mr. Farrugia Estimates the Size of His Team

Augustin Farrugia

Tr. 422:8-13

Q. At the time you were the head of FairPlay engineering, how many persons were on your team?

A. I -- I can give you a ballpark, but I don't know the detail.

Q. What is your ballpark number?

A. **15 to 20.**

Mr. Farrugia Estimates the Size of His Team

FairPlay team headcount: 17.5

iTunes team headcount: 310.25

= **5.64%**

Author(s)	Tom Dowdy Augustin J. Farrugia David Heller Jeff Robbin
Contributor(s)	Gianpaolo Fasoli Rober Pantos

DTX 225

Inventors: **Augustin J. Farrugia**, Cupertino, CA (US); **Gianpaolo Fasoli**, Palo Alto, CA (US); **Jean-Francois Riendeau**, Campbell, CA (US); **Rod Schultz**, San Francisco, CA (US)

DTX 952

Inventors: **Julien Lerouge**, Santa Clara, CA (US); **Gianpaolo Fasoli**, Palo Alto, CA (US); **Augustin J. Farrugia**, Cupertino, CA (US)

DTX 956

Inventors: **Gianpaolo Fasoli**, Palo Alto, CA (US); **Augustin J. Farrugia**, Cupertino, CA (US); **Bertrand Mollinier Toublet**, Santa Clara, CA (US); **Gelareh Taban**, Sunnyvale, CA (US); **Nicholas T. Sullivan**, Sunnyvale, CA (US); **Srinivas Vedula**, Santa Clara, CA (US)

DTX 963

Inventors: **Augustin J. Farrugia**, Cupertino, CA (US); **Mathieu Ciet**, Paris (FR); **Pierre Betouin**, Boulogne (FR)

DTX 964

Inventors: **Pierre Betouin**, Fontenay-le-Fleury (FR); **Mathieu Ciet**, Paris (FR); **Augustin J. Farrugia**, Cupertino, CA (US); **Gianpaolo Fasoli**, Palo Alto, CA (US)

DTX 965

Inventors: **Thomas Dowdy**, Sunnyvale, CA (US); **Jeffrey L. Robbin**, Los Altos, CA (US); **Guy L. Tribble**, Hillsborough, CA (US); **David Heller**, San Jose, CA (US)

DTX 966

Author(s)	Tom Dowdy (iTunes) Augustin J. Farrugia (FairPlay) Gianpaolo Fasoli (FairPlay) Jean-François Riendeau (FairPlay)
Contributor(s)	David Heller (iTunes) Roger Pantos (QuickTime) Jeff Robbin (iTunes) Grant Erickson (iPod)

DTX 949

1. Pierre Betouin
2. Mathieu Ciet
3. Tom Dowdy
4. Grant Erickson
5. Augustin Farrugia
6. Gianpaolo Fasoli
7. David Heller
8. Julien Lerouge
9. Roger Pantos
10. Jean-Francois Riendeau
11. Jeff Robbin
12. Rod Schultz
13. Nicholas Sullivan
14. Gelareh Taban
15. Guy Tribble
16. Bertrand Mollinier Toublet
17. Srinivas Vedula

PDX-CL-42

70,366,733,949+

FairPlay downloads

Reasonable Royalty

REASONABLE ROYALTY RATE	ROYALTY BASE	DAMAGES
0.44 ¢	70+ Billion downloads	$308,488,108

PMC

Closing Statement

QUESTION 1:

Has PMC proven by a preponderance of the evidence that Apple infringed **ANY** of the Asserted Claims of '091 Patent?

Please check either "Yes" or "No."

Yes: ✓ No: _____

Answer Questions 2a and 2b <u>ONLY</u> as to any Asserted Claims that you have found are infringed.

<u>QUESTION 2a:</u>

What sum of money, if any, paid now in cash, has PMC proven by a preponderance of the evidence would compensate PMC for its damages resulting from infringement?

Answer in United States Dollars and Cents, if any:

$ $ 308,488,108

QUESTION 2b:

Is the amount you awarded in Question 2a a lump-sum representing damages for past and future use of the claimed methods, or is the amount you awarded in Question 2a a running royalty?

Check one of the following:

_____ Lump Sum

OR

✓ Running Royalty

PMC

Closing Statement